

Serial No. 09/202,549

Inventor: Tsichlis

Title: Nucleic Acid Molecule for
Enhancing Gene Expression



A	40
C	32/32
A	40
A	39
A	35
A	30
T	35/40
A	73
A	100
A	100
A	100
T	100
C	69
A	53
C	38/44
G	75
C	57
A	69
T	35
A	31
T	38
G	38
C	35
C	33

Figure 1

RECEIVED

AUG 20 2002

TECH CENTER 1600/2900



Serial No. 09/202,549

Inventor: Tsiichlis

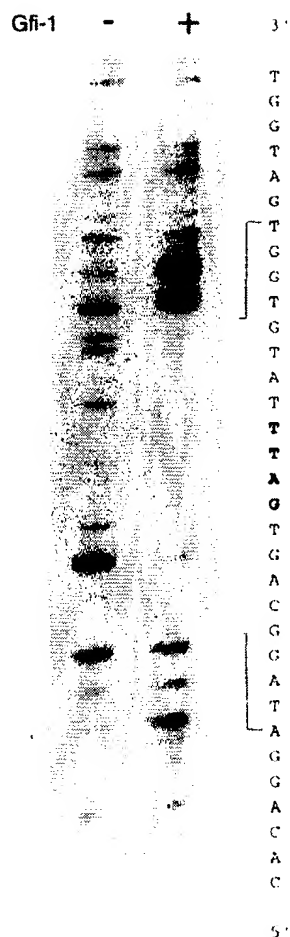
Title: Nucleic Acid Molecule for
Enhancing Gene Expression

RECEIVED

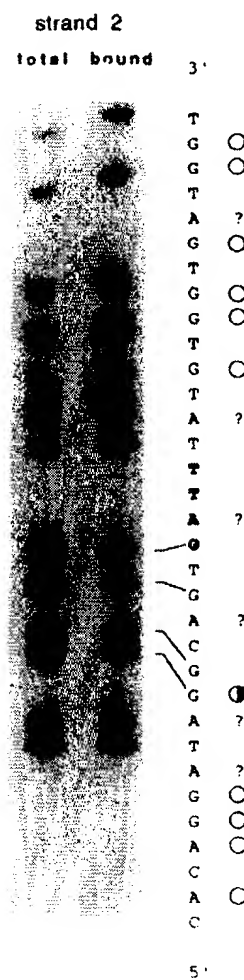
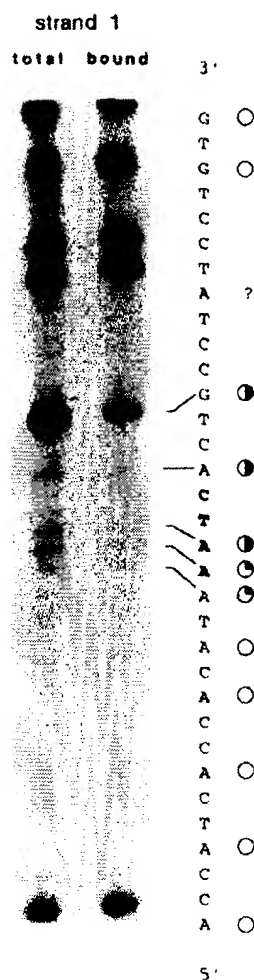
AUG 20 2002

TECH CENTER 1600/2900

A



B



Figur 2

Title: Nucleic Acid Molecule for Enhancing Gene Expression

1 2 3 4 5 6 7 8 9 10 11 12

... ACCATCACCACATA**AATCA**CTGCCCTATCCTGTG...
... TGGTAGTGGTGTA**T****TA**GTCACGGATAGGACAC...
OO ? O OO O ? ● ? ●● ? ?○○○ ○

AUG 20 2002

TECH CENTER 1600/2900

Figure 2



Serial No. 09/202,549

Inventor: Tsichlis

Title: Nucleic Acid Molecule for Enhancing Gene Expression

D1

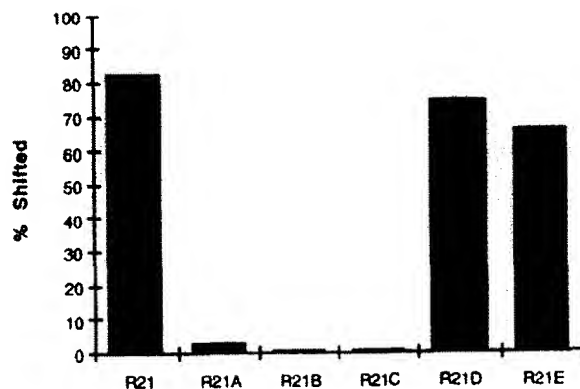
		1	2	3	4	5	6	7	8	9	10	11	12										
R21		C	A	C	C	A	T	A	A	A	T	C	A	C	T	G	C	C	T	A	T	C	C
R21A		C	A	C	C	A	T	A	G	A	T	C	A	C	T	G	C	C	T	A	T	C	C
R21B		C	A	C	C	A	T	A	A	C	T	C	A	C	T	G	C	C	T	A	T	C	C
R21C		C	A	C	C	A	T	A	A	A	T	A	A	C	T	G	C	C	T	A	T	C	C
R21D		C	A	C	C	A	T	A	A	A	T	C	A	A	T	G	C	C	T	A	T	C	C
R21E		C	A	C	C	A	T	A	A	A	T	C	A	C	T	T	C	C	T	A	T	C	C

D2

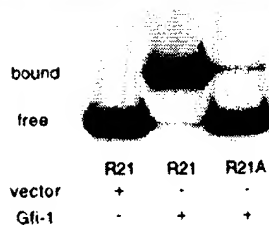


	R21	R21	R21A	R21B	R21C	R21D	R21E
Gli-1	-	+	+	+	+	+	+

D3



E



RECEIVED

AUG 20 2002

TECH CENTER 1600/2900

Figure 2



Serial No. 09/202,549
Inventor: Tschlis
Title: Nucleic Acid Molecule for
Enhancing Gene Expression

REC'D

AUG 20 2002

TECH CENTER 1600/2900

A

HCMV MIE Promoter

GCCCGCCTGGCTGACCGCCCAACGACCCCGCCCATTTGACGTCAATAATG

ACGTATGTTCCCATAGTAACGCCAATAGGGACTTTCCATTGACGTCAATG

GGTGGAGTATTTACGGTAAACTGCCCACTTGGCAGTACATCAAGTGTATC

ATATGCCAAGTACGCCCCCTATTGACGTCAATGACGGTAAATGGCCCGCC

TGGCATTATGCCCAGTACATGACCTTATGGGACTTTCCTACTTGGCAGTA

CATCTACGTATTAGTCATCGCTATTACCATGGTGATGCGGTTTTGGCAGT

ACATCAATGGGCGTGGATAGCGGTTTGACT CACGGGGATTTC CAAGTCTC

Gfi-1 site #1

CACCCCATTTGACGTCAATGGGAGTTTGTTTTGGCACCA AAAATCAACGGGA

Gfi-1 site #2

CTTTCCAAAATGTCGTAACAACTCCGCCCCATTGACGCAAATGGGCGGTA

GGCGTGACGGTGGGAGGTCTATATAAGCAGAGCTCGTTTAGTGAACCGT ⁺¹

B

Gfi-1 consensus	TAAATCAC ^A _T GCA
Gfi-1 site #1 (-157 to -168)	GAAATCCCCGTG
Gfi-1 site #2 (-111 to -100)	AAAATCAACGGG

Figure 3

Serial No. 09/202,549
Inventor: Tschlis
Title: Nucleic Acid Molecule for
Enhancing Gene Expression



RECEIVED

AUG 20 2002

TECH CENTER 1600/2900

C

Point Mutations

	<u>Gfi-1 site #1</u>	<u>Gfi-1 site #2</u>
Wildtype CMV	CACGGG GAT TTC.....AA ATC AACGGG	
Mutant A	CACGGG GAT TTC.....AA CT CAACGGG	
Mutant B	CACGGG ACT TTC.....AA CT CAACGGG	

D

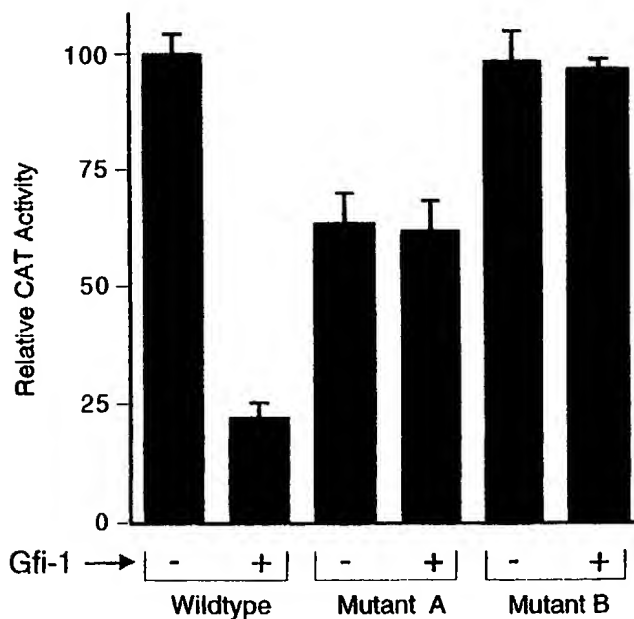


Figure 3



Serial No. 09/202,549

Inventor: Tsichlis

Title: Nucleic Acid Molecule for
Enhancing Gene Expression

RECEIVED

AUG 20 2002

TECH CENTER 1600/2900

A

	Gli-1 aa	Binding Site		
		Predicted	R21	
		3'	3'	5'
Finger 1	T	-	-	-
	G	X	-	-
	V	T/C	-	-
Finger 2	H	G	-	-
	S	-	C	G
	Q	A	C	G
Finger 3	R	G/t	G	C
	T	-	T	A
	T	-	C	G
Finger 4	Q	A	A	T
	D	C	C	G
	K	G/t	T	A
Finger 5	Q	A	A	T
	N	A	A	T
	T	-	A	T
Finger 6	R	G/t	T	A
	D	C	-	-
	R	G/t	-	-
		5'	5'	3'

B

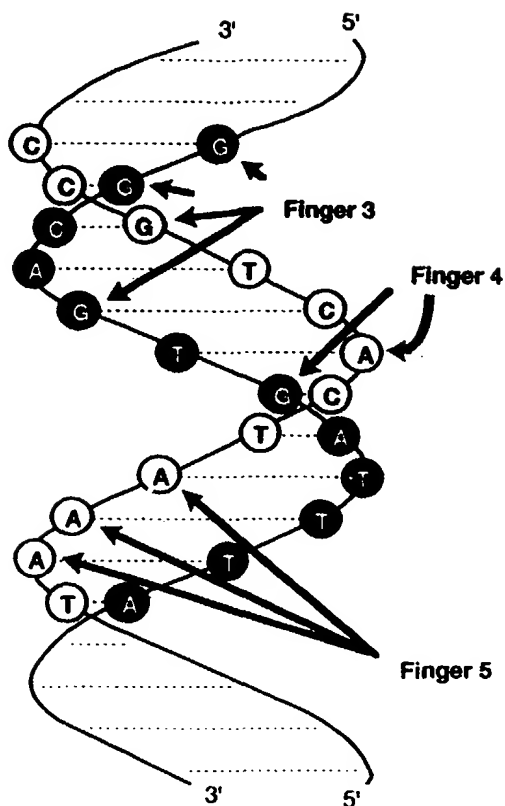


Figure 4